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FIG.1

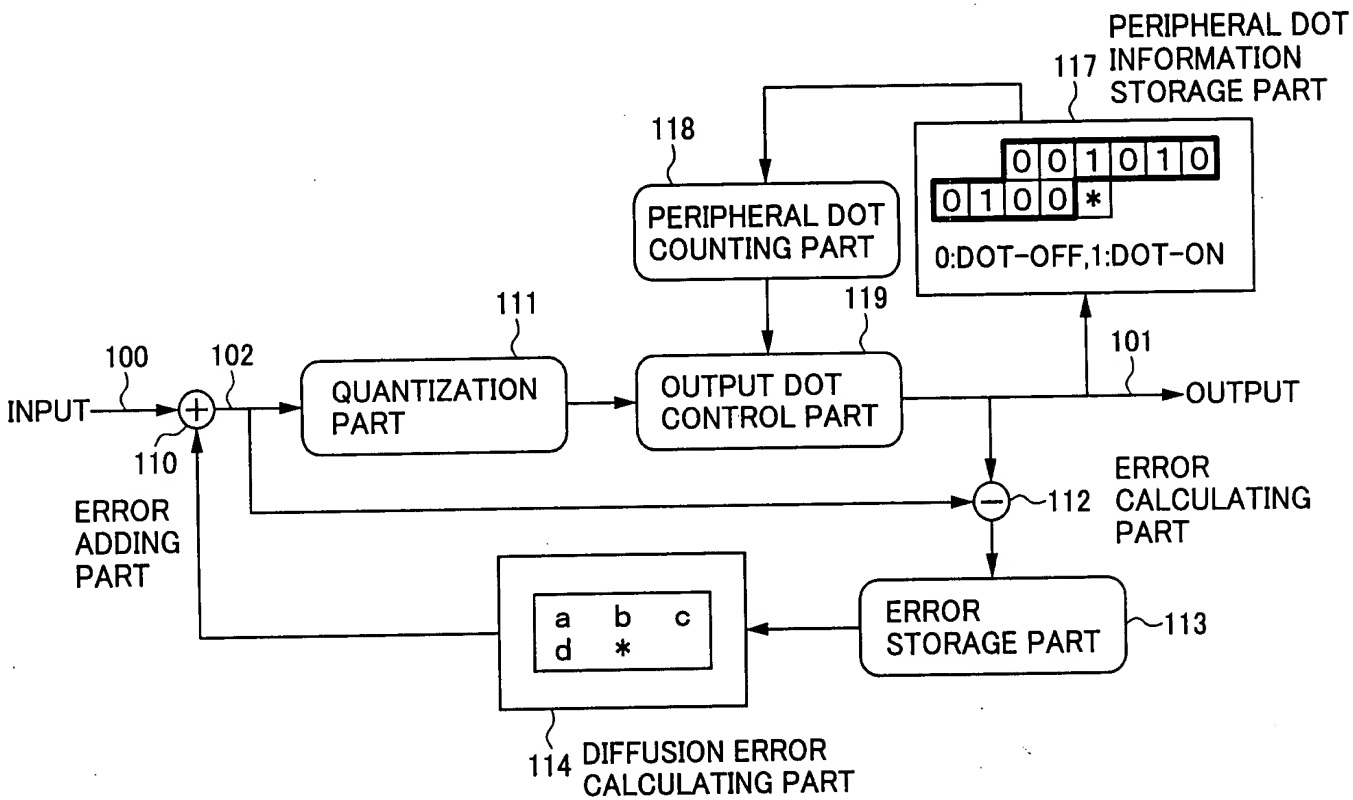

FIG.2

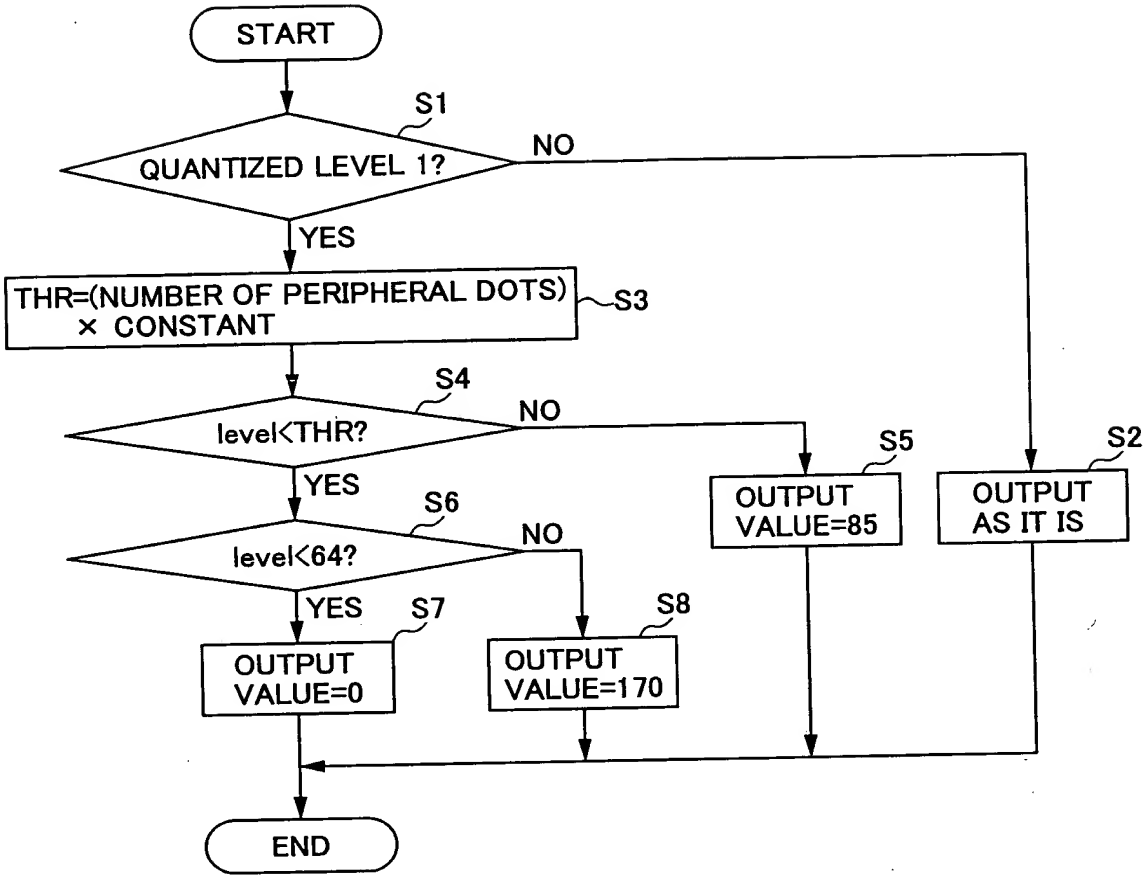

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FIG.3

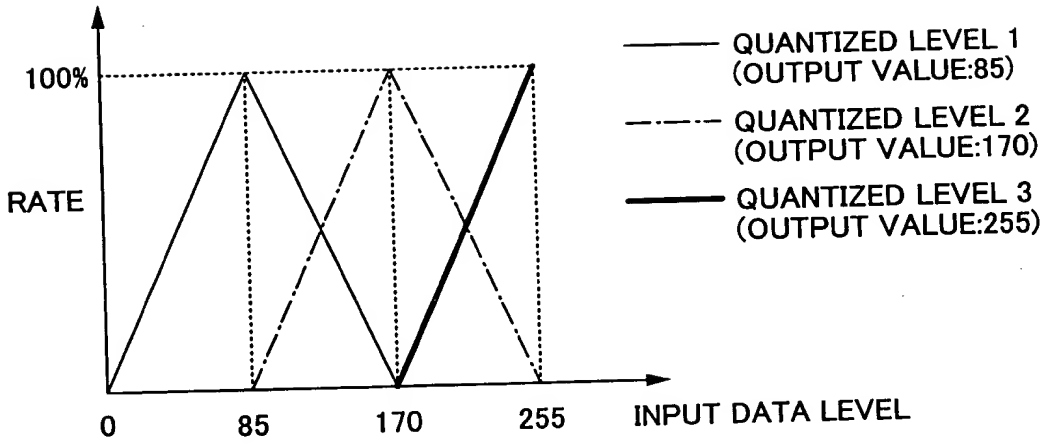

FIG.4

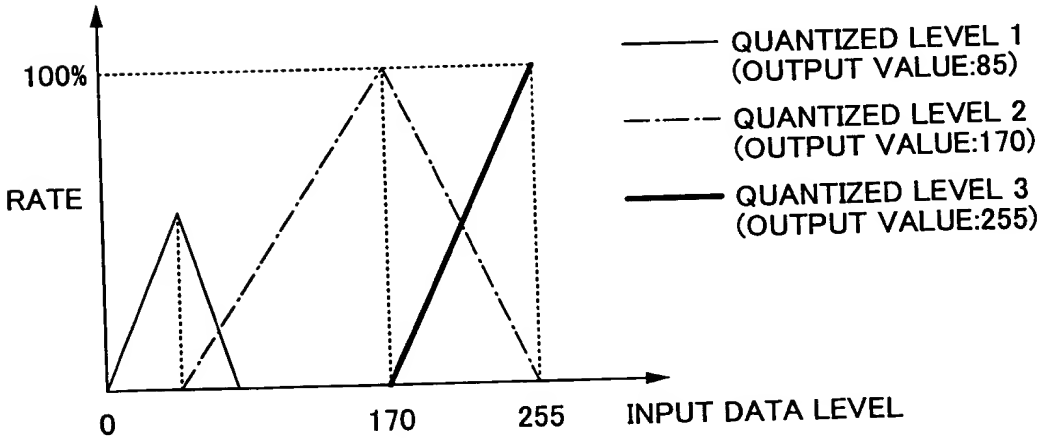

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FIG.5

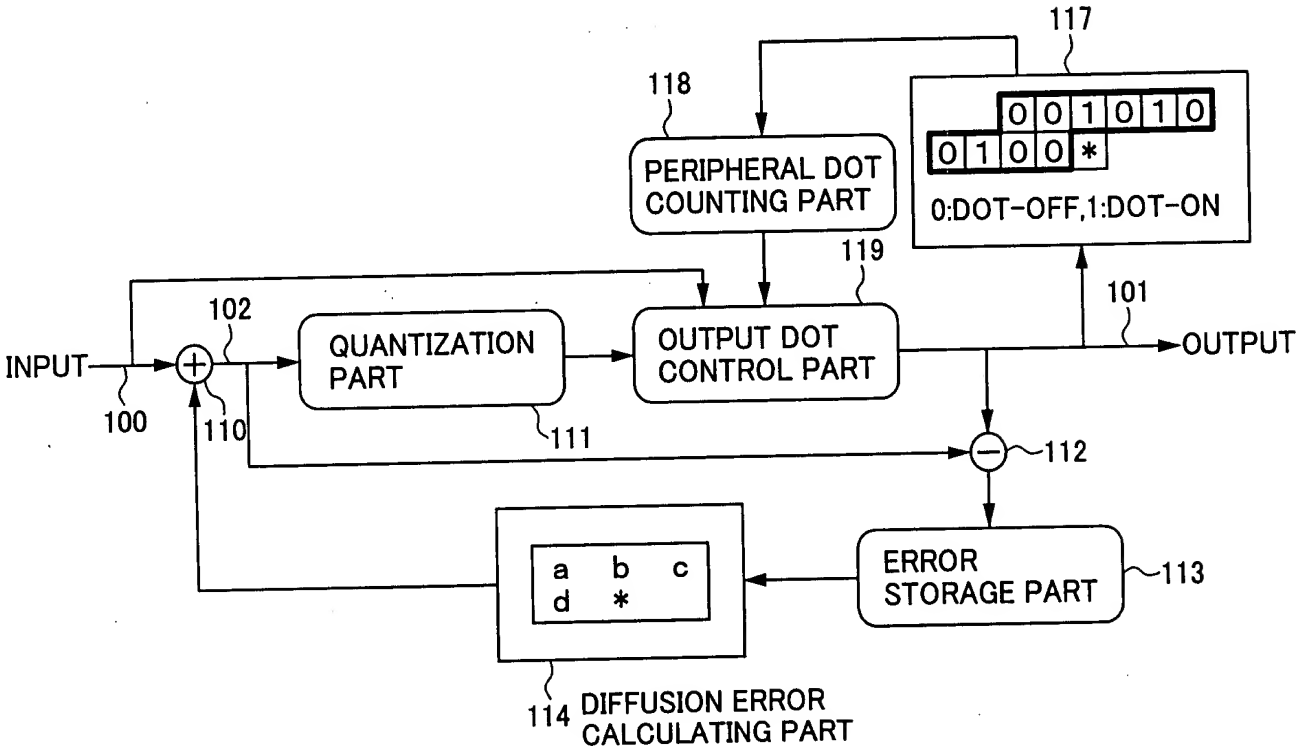
117
118
PERIPHERAL DOT COUNTING PART
0 0 1 0 1 0
0 1 0 0 *
0:DOT-OFF,1:DOT-ON
119
101
102
INPUT
100
110
QUANTIZATION PART
OUTPUT DOT CONTROL PART
OUTPUT
111
112
a b c
d *
ERROR STORAGE PART
113
114 DIFFUSION ERROR CALCULATING PART

FIG.6

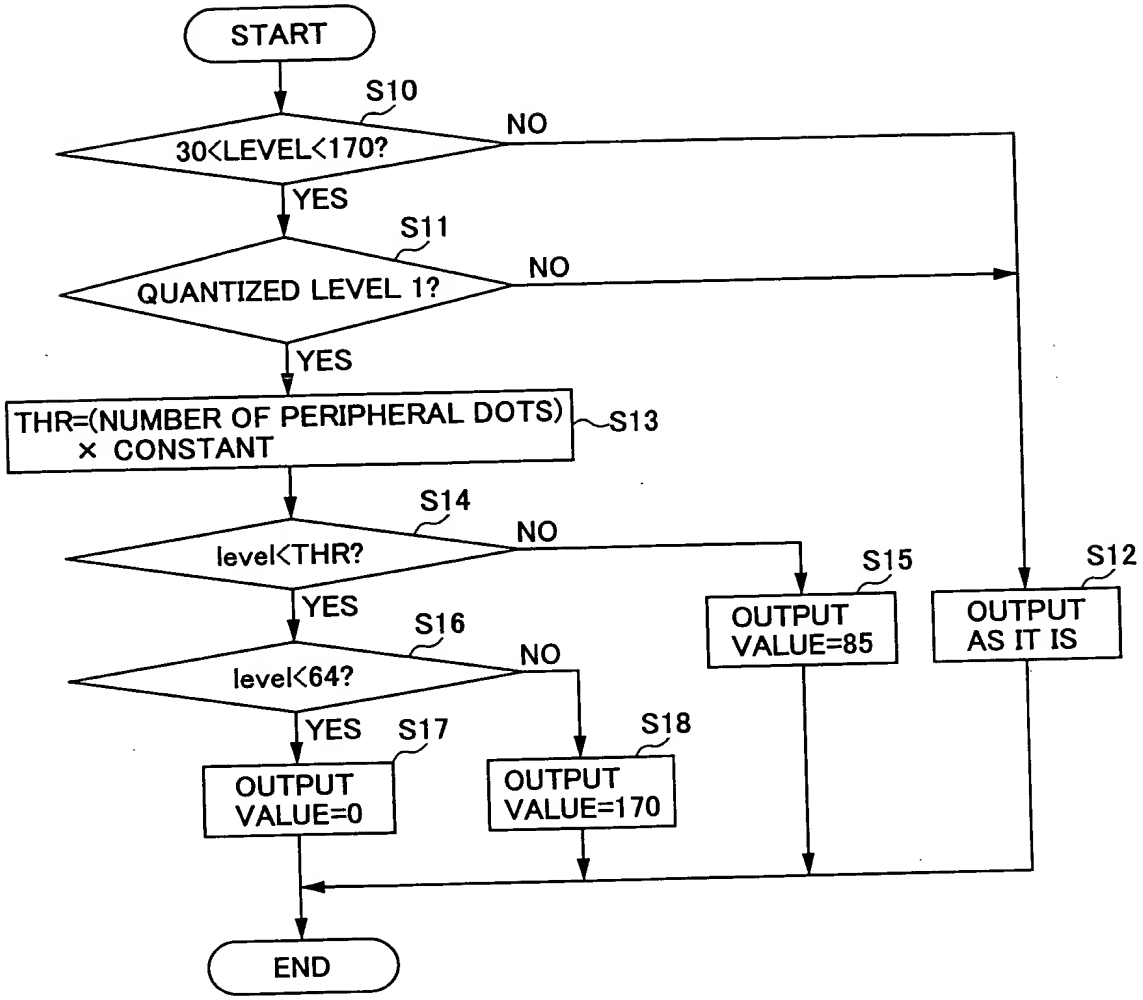
START
S10
30<LEVEL<170?
NO
YES
S11
QUANTIZED LEVEL 1?
NO
YES
THR=(NUMBER OF PERIPHERAL DOTS) × CONSTANT
S13
S14
level<THR?
NO
YES
S15
OUTPUT VALUE=85
S12
OUTPUT AS IT IS
S16
level<64?
NO
YES
S17
OUTPUT VALUE=0
S18
OUTPUT VALUE=170
END

FIG.7

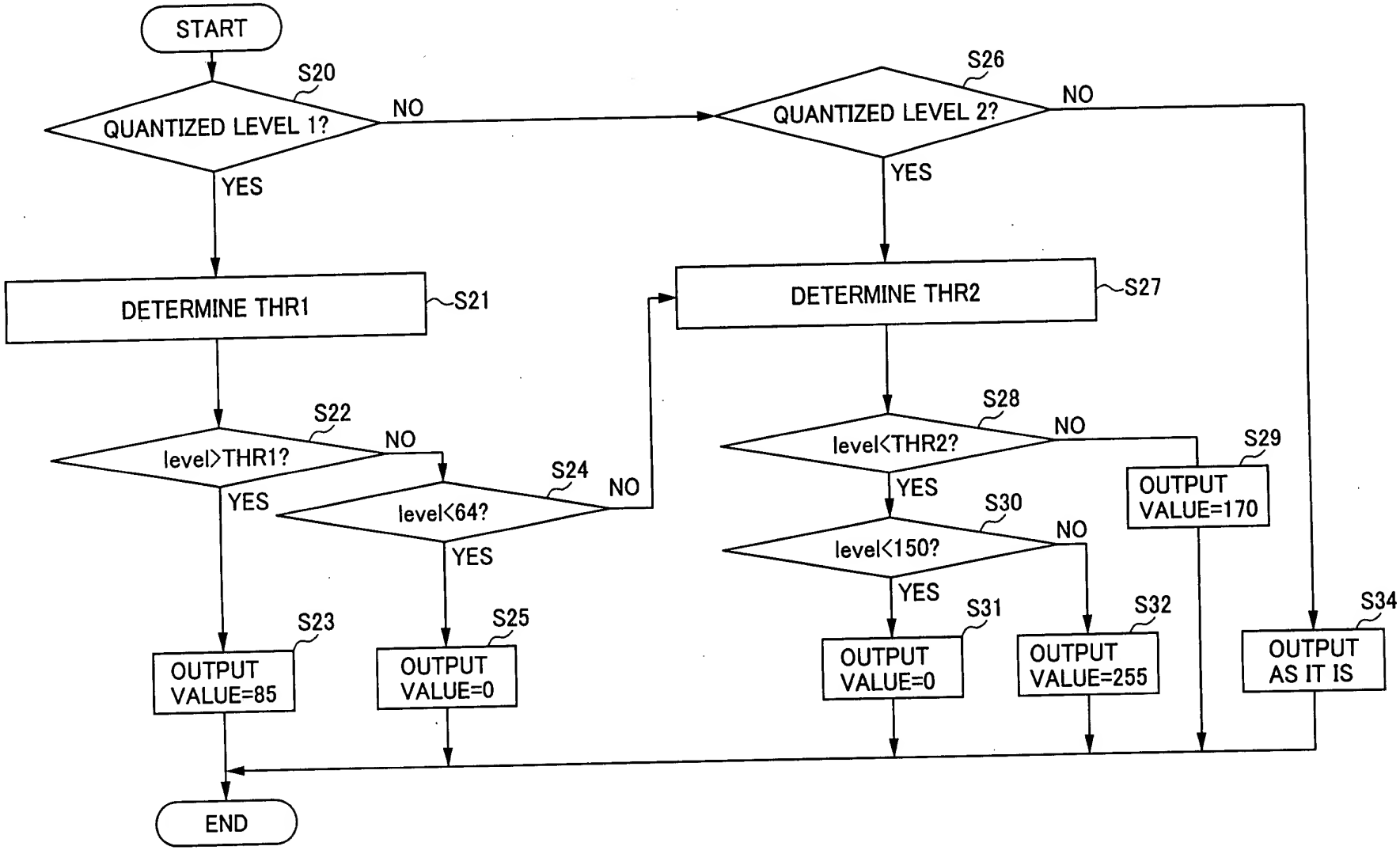
START
S20
QUANTIZED LEVEL 1?
NO
YES
DETERMINE THR1
S21
S22
level>THR1?
NO
YES
S24
level<64?
NO
YES
S23
OUTPUT VALUE=85
S25
OUTPUT VALUE=0
S26
QUANTIZED LEVEL 2?
NO
YES
DETERMINE THR2
S27
S28
level<THR2?
NO
YES
S29
OUTPUT VALUE=170
S30
level<150?
NO
YES
S31
OUTPUT VALUE=0
S32
OUTPUT VALUE=255
S34
OUTPUT AS IT IS
END

FIG.8

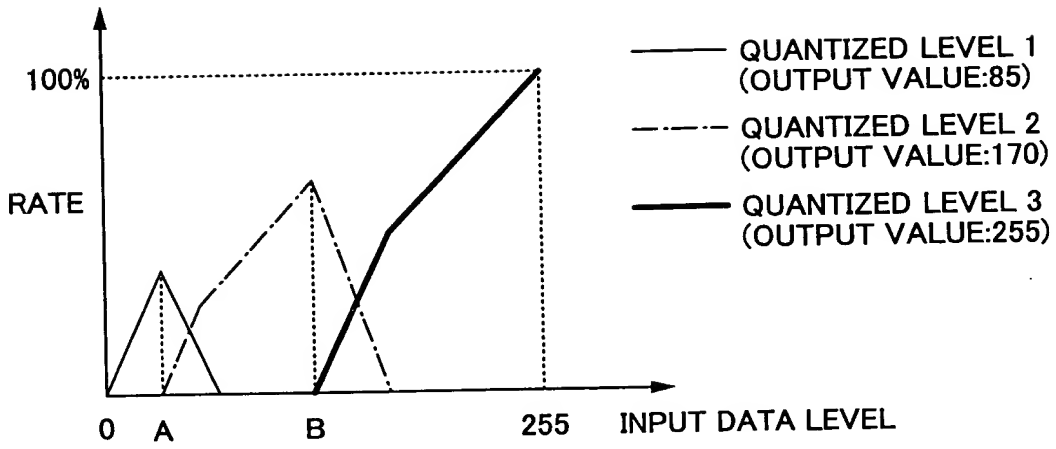

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FIG.9

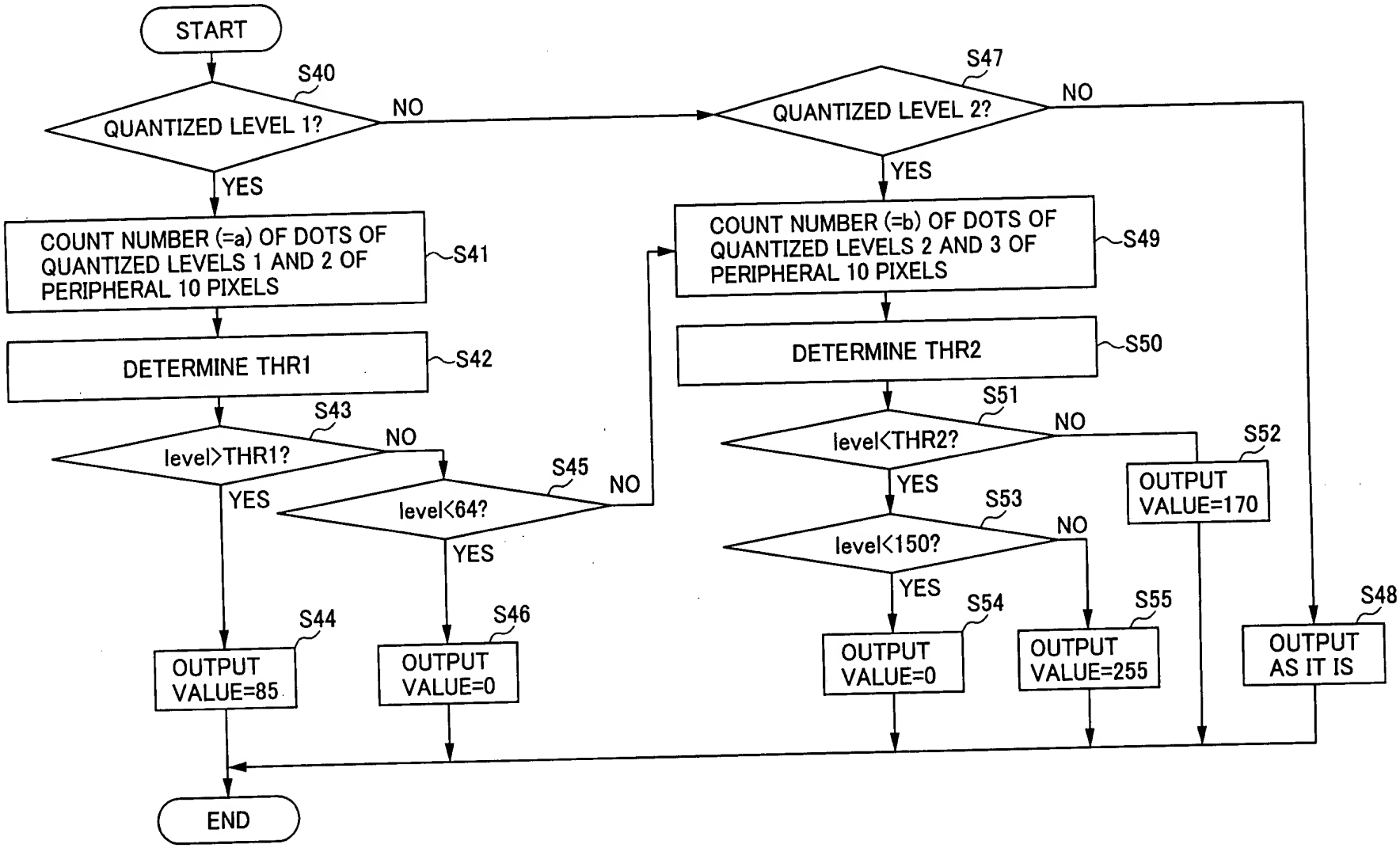
START
S40
QUANTIZED LEVEL 1?
NO
YES
COUNT NUMBER (=a) OF DOTS OF QUANTIZED LEVELS 1 AND 2 OF PERIPHERAL 10 PIXELS
S41
DETERMINE THR1
S42
S43
level>THR1?
NO
YES
S45
level<64?
NO
YES
S44
OUTPUT VALUE=85
S46
OUTPUT VALUE=0
S47
QUANTIZED LEVEL 2?
NO
YES
COUNT NUMBER (=b) OF DOTS OF QUANTIZED LEVELS 2 AND 3 OF PERIPHERAL 10 PIXELS
S49
DETERMINE THR2
S50
S51
level<THR2?
NO
YES
S52
OUTPUT VALUE=170
S53
level<150?
NO
YES
S54
OUTPUT VALUE=0
S55
OUTPUT VALUE=255
S48
OUTPUT AS IT IS
END

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FIG.10

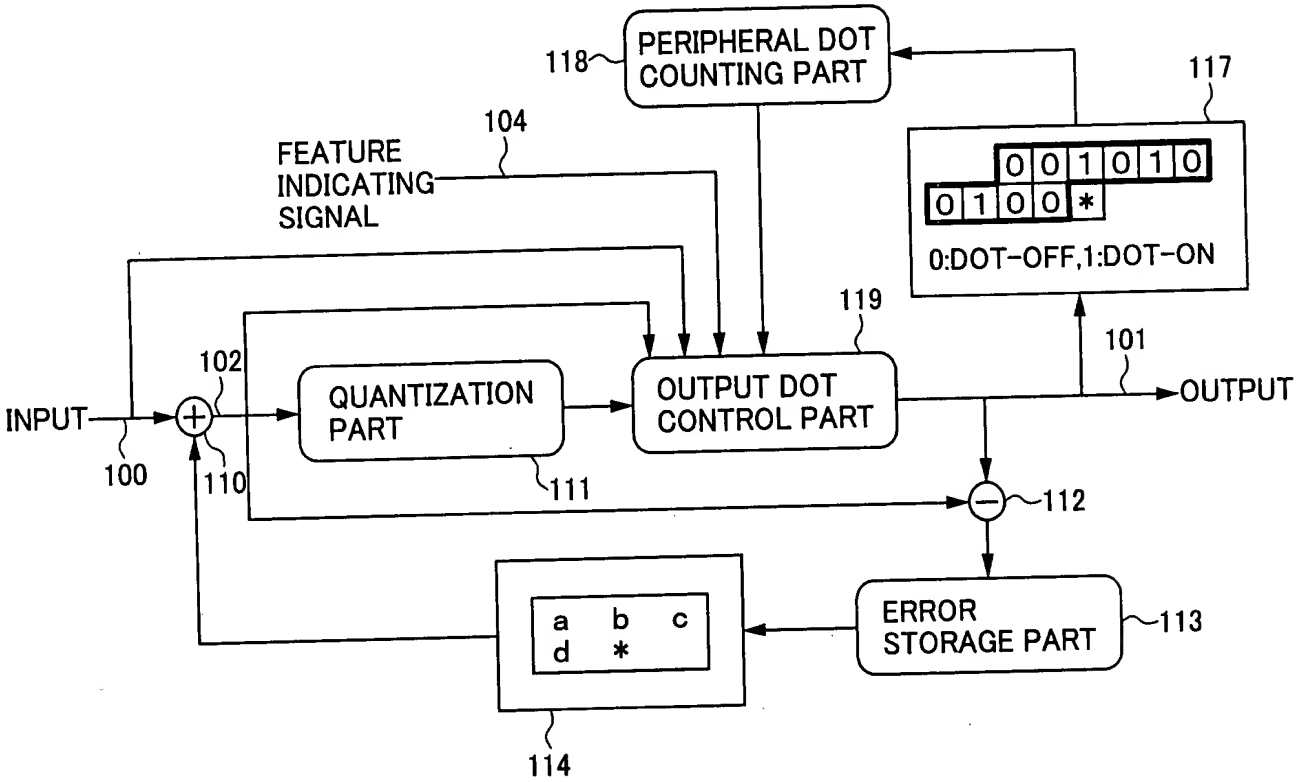

FIG.11

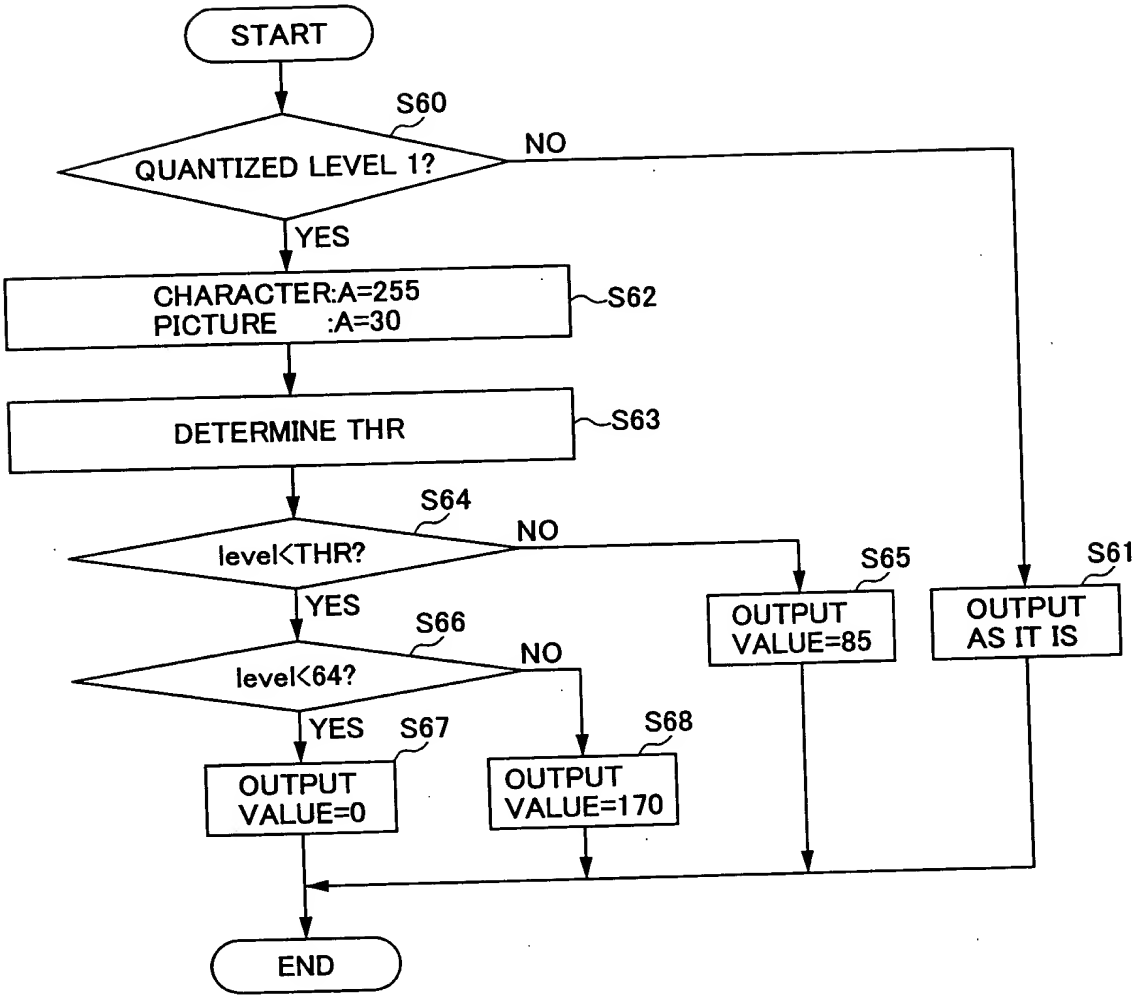
START
S60
QUANTIZED LEVEL 1?
NO
YES
CHARACTER:A=255
PICTURE :A=30
S62
DETERMINE THR
S63
S64
level<THR?
NO
YES
S65
OUTPUT VALUE=85
S61
OUTPUT AS IT IS
S66
level<64?
NO
YES
S67
OUTPUT VALUE=0
S68
OUTPUT VALUE=170
END

FIG.12

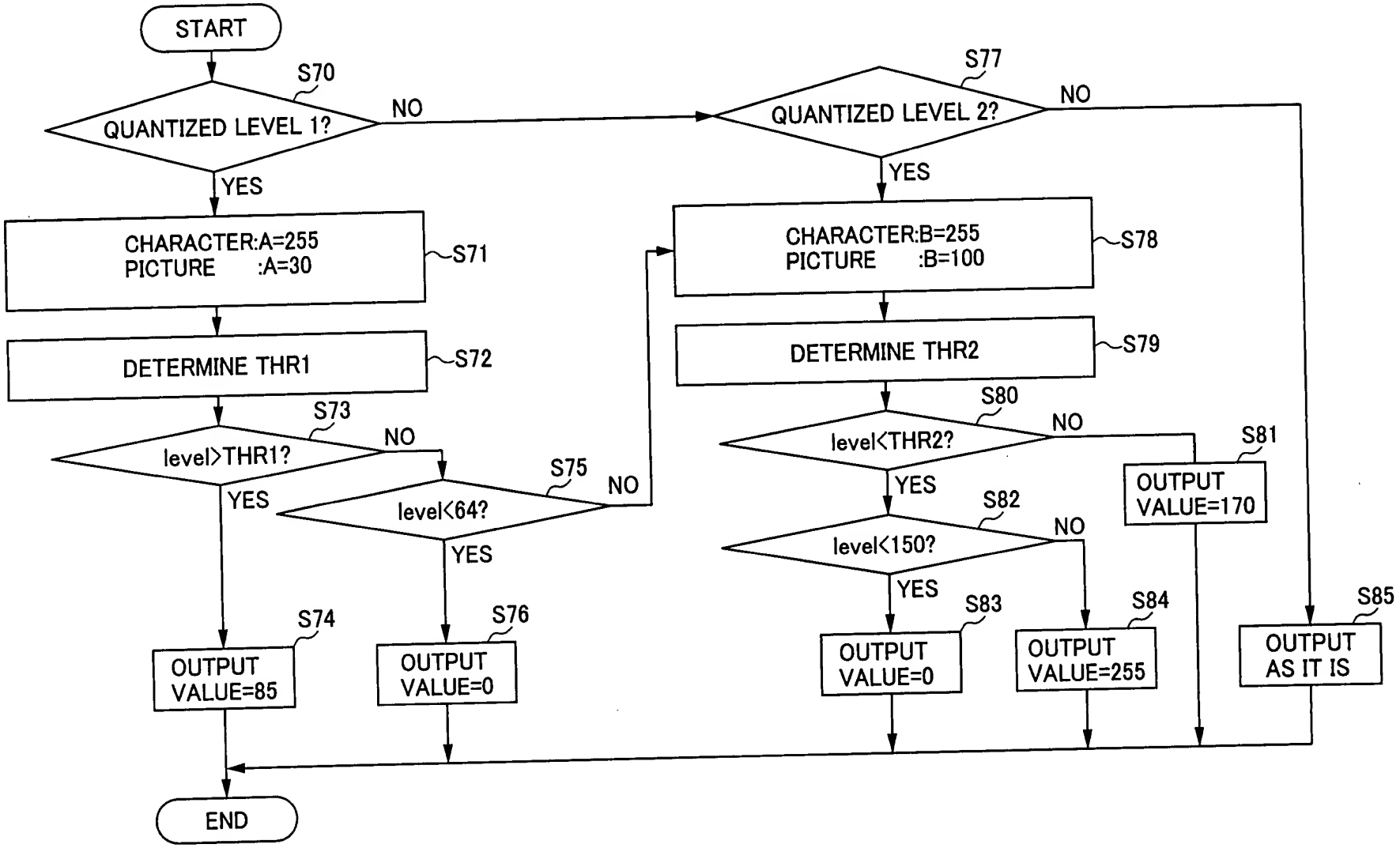
START
S70
QUANTIZED LEVEL 1?
NO
YES
CHARACTER:A=255
PICTURE :A=30
S71
DETERMINE THR1
S72
S73
level>THR1?
NO
YES
S75
level<64?
NO
YES
S74
OUTPUT VALUE=85
S76
OUTPUT VALUE=0
S77
QUANTIZED LEVEL 2?
NO
YES
CHARACTER:B=255
PICTURE :B=100
S78
DETERMINE THR2
S79
S80
level<THR2?
NO
YES
S81
OUTPUT VALUE=170
S82
level<150?
NO
YES
S83
OUTPUT VALUE=0
S84
OUTPUT VALUE=255
S85
OUTPUT AS IT IS
END

FIG.13

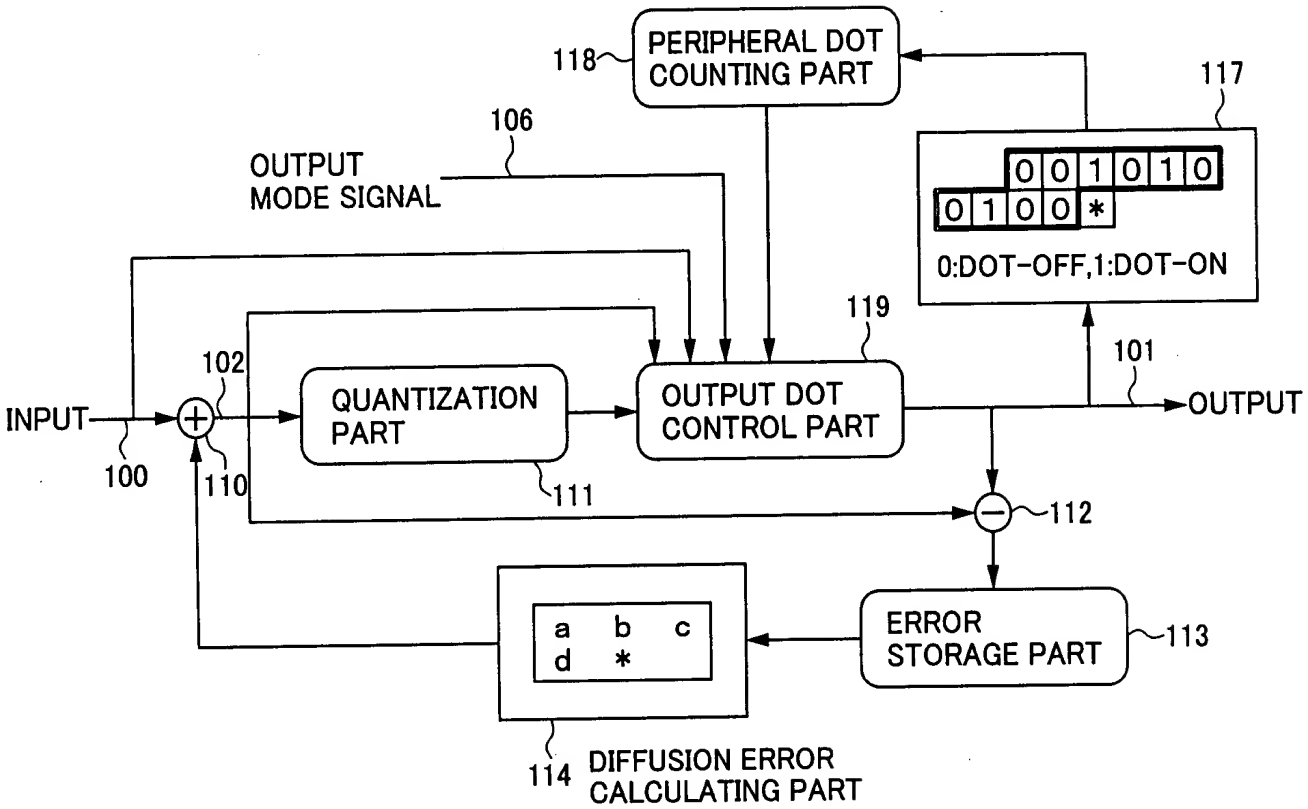
118
PERIPHERAL DOT COUNTING PART
117
106
OUTPUT MODE SIGNAL
0 0 1 0 1 0
0 1 0 0 *
0:DOT-OFF,1:DOT-ON
119
101
102
INPUT
QUANTIZATION PART
OUTPUT DOT CONTROL PART
OUTPUT
100
110
111
112
a b c
d *
ERROR STORAGE PART
113
114
DIFFUSION ERROR CALCULATING PART

FIG.14

OUTPUT MODE	A	B
CHARACTER MODE	255	255
PHOTOGRAPH MODE	30	100
CHARACTER/PHOTOGRAPH MODE	30	150
PRINTED PHOTOGRAPH MODE	60	255

FIG.15

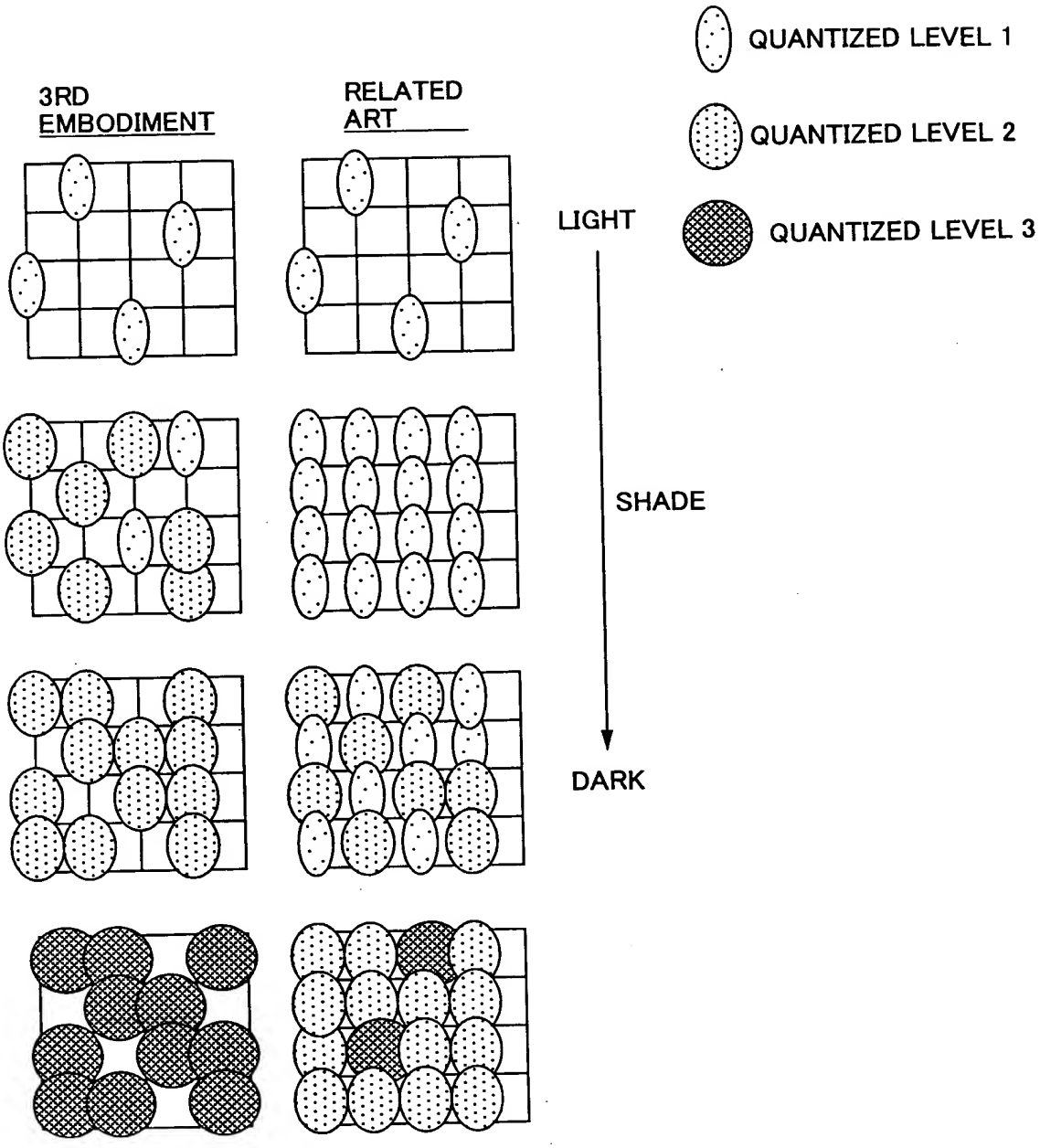
QUANTIZED LEVEL 1
QUANTIZED LEVEL 2
QUANTIZED LEVEL 3
3RD EMBODIMENT
RELATED ART
LIGHT
SHADE
DARK

FIG.16

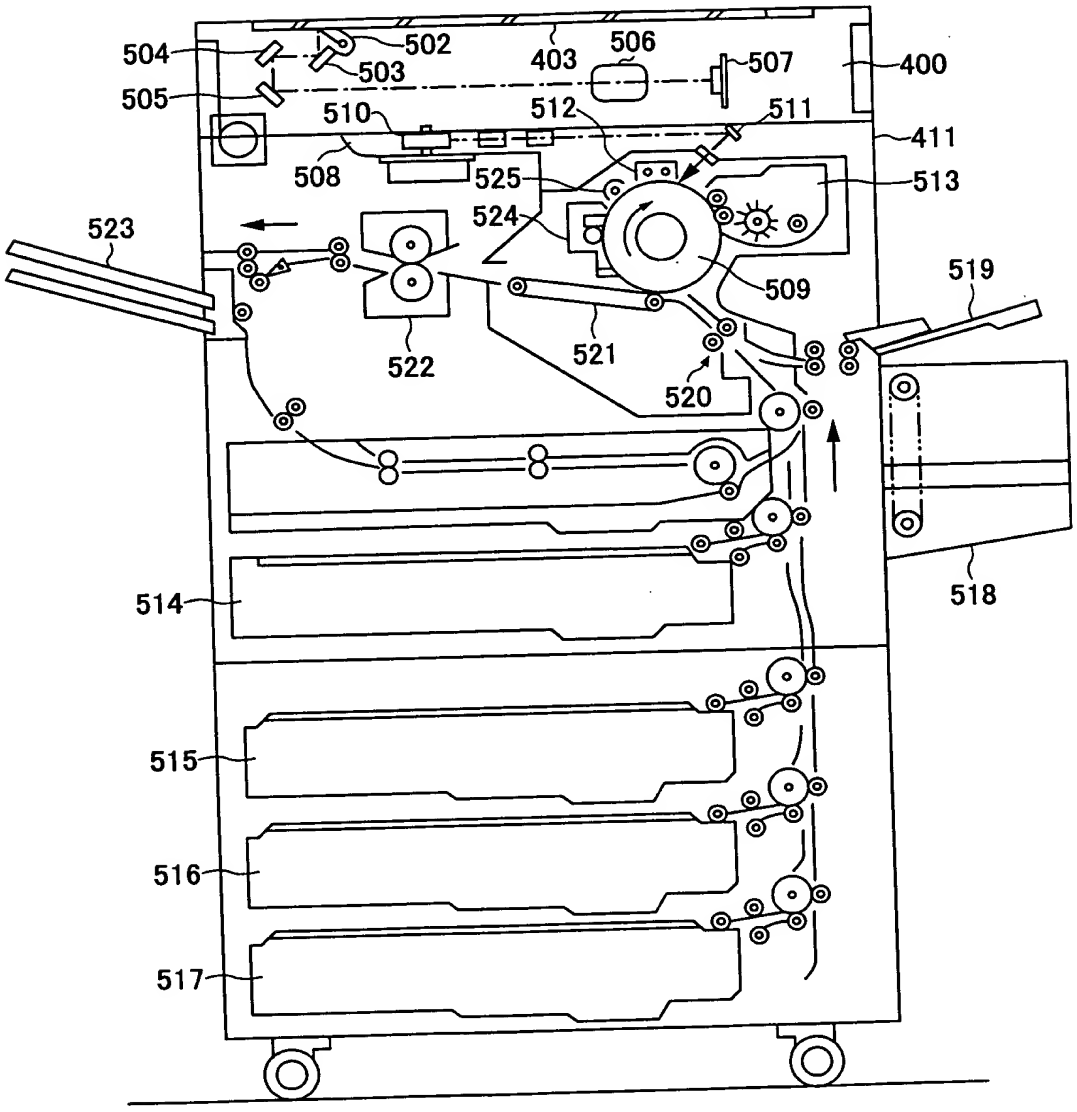
504
502
403
506
507
400
503
505
510
512
511
411
508
525
513
524
523
509
519
522
521
520
514
518
515
516
517

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FIG.17

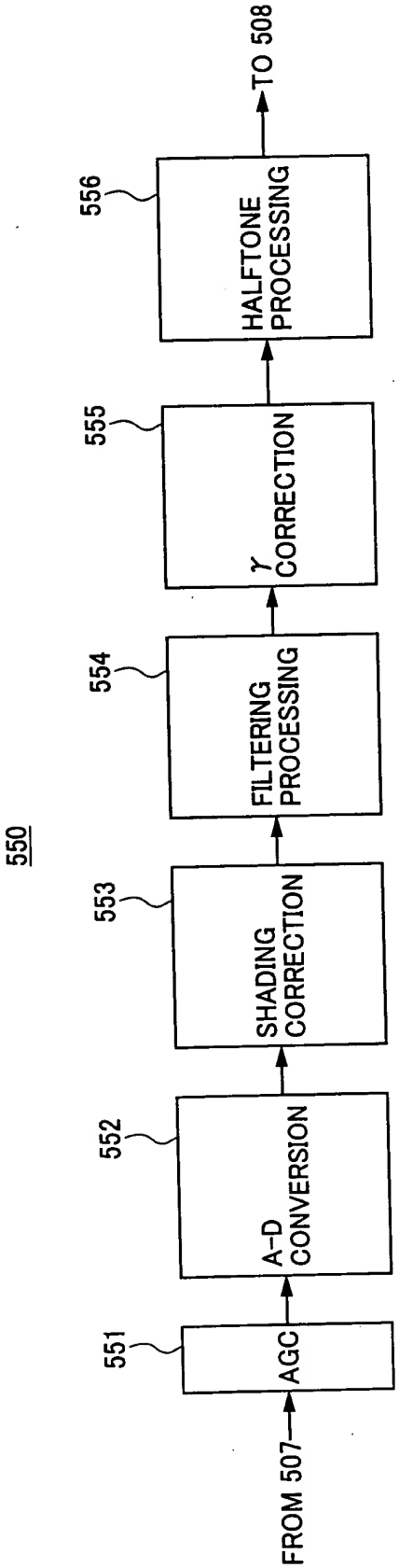

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FIG.18

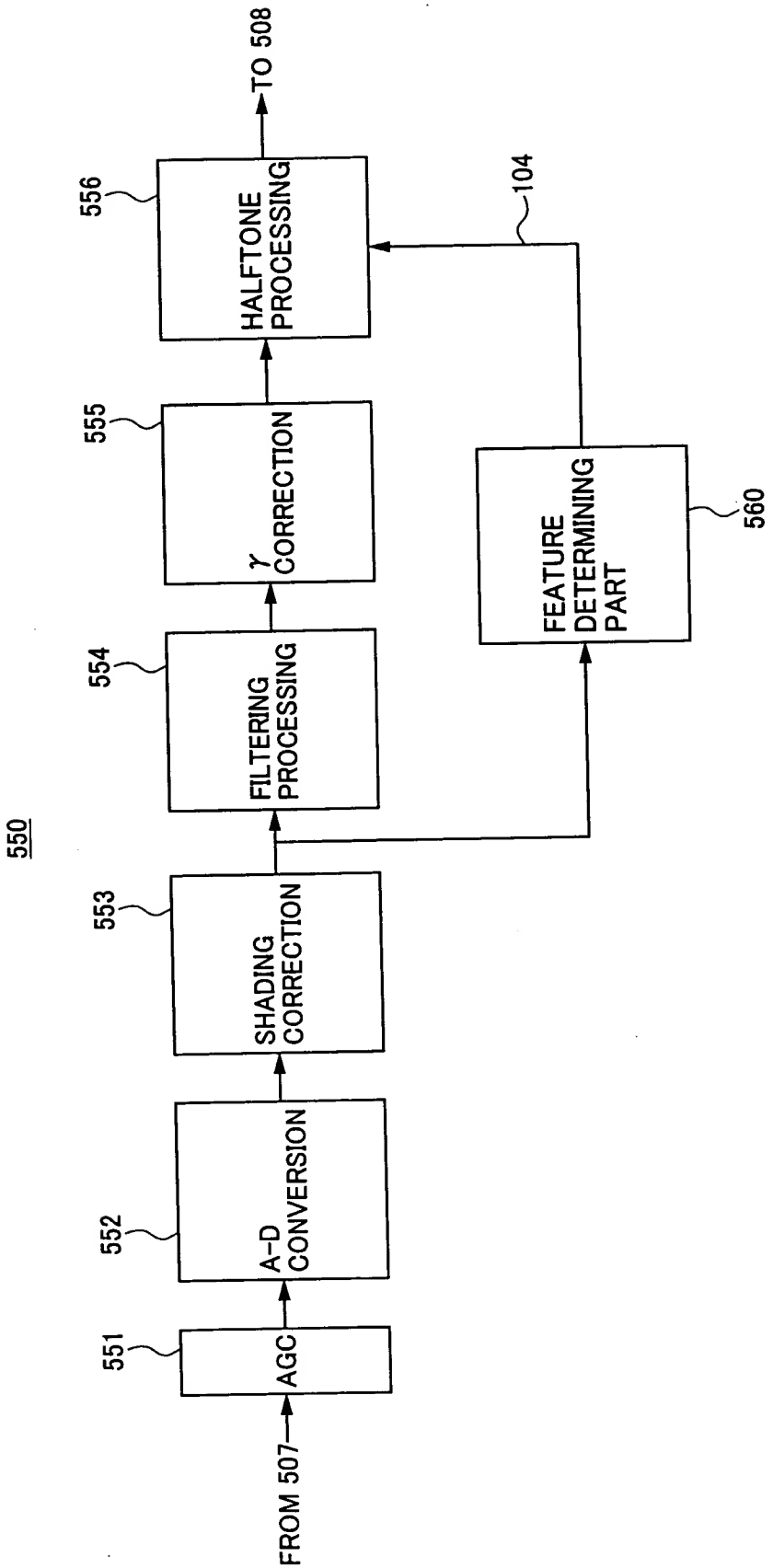

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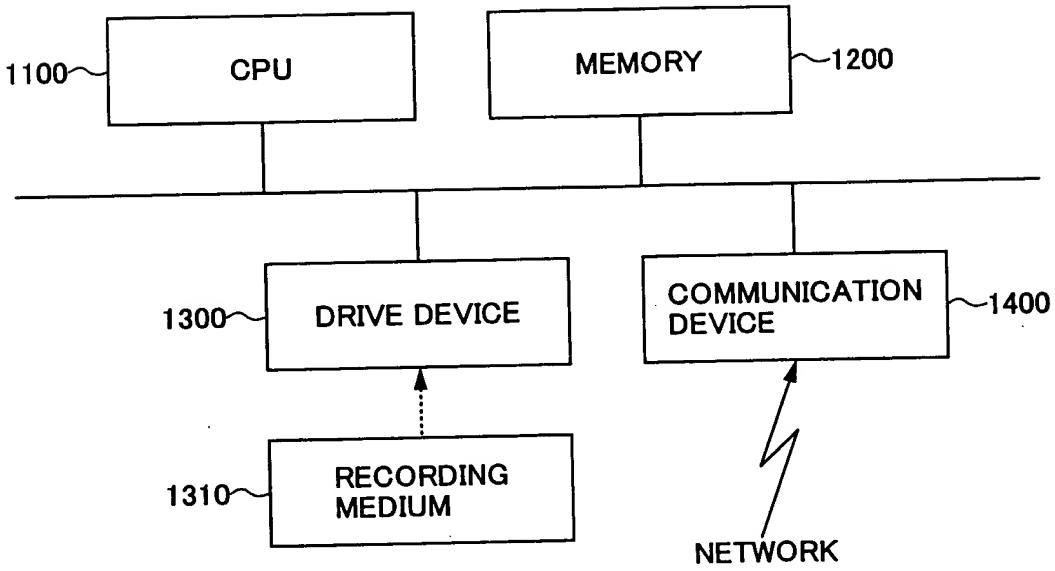
FIG.19A

FIG.19B

FIG.19C

FIG.19D

FIG.20


1100
CPU
MEMORY
1200
1300
DRIVE DEVICE
COMMUNICATION DEVICE
1400
1310
RECORDING MEDIUM
NETWORK